

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Yellowstone NATIONAL PARK

FILE NO. 143

MONTHLY REPORT

February, 1925

FEBRUARY, 1925

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NATIONAL PARK
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March 4, 1925.

Dear Sir:

The following is my report on conditions in the Yellowstone National Park and on the operation of the park for the month of February, 1925:

I. GENERAL CONDITIONS

General Road Conditions

Road conditions between Mammoth and Gardiner, Mont., have been good at all times during the month; travel between Gardiner and Cooke City, Mont., has been limited to the regular schedules of the weekly mail sleighs. There has been no travel on any of the other park roads during the month.

Weather

The following records are quoted from the report for February of the Observer in charge of the local United States Weather Bureau at Mammoth Hot Springs, Park Headquarters:

Temperature: Monthly mean, 27.6° , is 8.0° above normal, and the warmest of record for the past 39 years. The temperature remained above normal during the entire month, which is unprecedented for February. The highest was 42° on the 3rd and the lowest 7° on the 11th. Seven degrees is the highest minimum of record, and there has been but three times previously when the lowest temperature for February did not reach zero.

Precipitation: Total 1.29 inches, is 0.55 inch below normal. The month was cloudy and unsettled and light snow or rain was of almost daily occurrence.

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Snowfall: Total 7.7 inches; normal 14.8 inches. The total snowfall for the season (Sept. 1 to Feb. 28) is 71.8 inches; normal for the same period is 69.1 inches.

Wind: Average hourly velocity 10.7 miles; normal 8.2. Highest velocity was 41 miles per hour from the south on the 3rd.

Sunshine: Percentage of possible 34; normal 53.

Snow Depths

Snow depths throughout the park at the close of the month were reported as follows, and for comparative purposes the snow depths for February 28, 1924, are also given:

<u>Station</u>	<u>1924</u>	<u>1925</u>
Buffalo Ranch	16 inches	16 inches
Soda Butte Station	36 "	37 "
Soda Butte Cabin	--	14 "
Tower Falls	16 "	19 "
Upper Basin	18 "	41 "
Lake	27 "	34 "
Thorofare	30 "	48 "
Hellroaring	18 "	17 "
Norris	33 "	28 "
Canyon	35 "	43 "
Thumb	40 "	40 "
Riverside	31 "	40 "
Gallatin	26 "	31 "
Sylvan Pass	25 "	41 "
Snake River	47 "	67 "
Bechler River	50 "	80 "
Upper Slough Creek Hay Ranch	--	34 "

There is 64 inches of snow on the North Line at Upper Slough Creek, 56 inches on the Norris-Canyon Divide, 64 inches on the Mist Creek Divide, 47 inches at Cold Creek, 62 inches at Cub Creek, 71 inches on the Lynx Creek Divide, 106 inches on Cascade Creek, and in the area between Snake River and Aster Creek the snow depth is 130 inches, with a water content of 40 inches.

It might be remarked in passing that the snow depths, particularly in the Southern Area, are considerably above normal.

The month has been characterized by moderate temperatures throughout and the usual February thaw has materially reduced the snow depths on the lower elevations.

Travel

No visitors were registered at any of the park entrances during the month.

II. ADMINISTRATION OF THE PARK

Personnel

On February 1 there were 62 employees on the payrolls, and this number was neither increased nor decreased during the month. The following list shows the number of appointees of various classes serving during the month, with a general statement of the kind of work in which they were engaged:

<u>No.</u>	<u>Class</u>	<u>Kind of Work Performed</u>
1	Superintendent	General administration and supervision of all activities in the park.
2	Asst. Superintendents	1 in charge of administration, purchasing, disbursing; 1 in charge of property, equipment, transportation, cost accounts, inventories, etc., also acting as Assistant to Superintendent in capacity as Field Assistant to the Director.
1	Asst. Engineer	In charge of engineering work.
4	Clerks	1 Cost Accounting Clerk; 1 Personnel and File Clerk; 1 Clerk on orders, proposals and vouchers and timekeeping and payroll work; 1 stenographer-typist on Superintendent's correspondence and handling miscellaneous work on administrative side of office.
3	Electricians	Operated power plant regular shift, including Sundays, read meters, did necessary line work.
3	Foremen	1 in charge of headquarters corral and freighting work about headquarters; 2 on work in shops.
3	Telephone Switchboard operators	Permanent operator on furlough; 2 temporary WAE operators regular shifts.

1 Master Mechanic	In charge of shops and of repair to machinery.
2 Blacksmiths	General blacksmith work, including shoeing of horses in shop, repairing tools and equipment.
1 <i>Master Plumber</i>	
1 Master Plumber	In charge of general plumbing and water and sewer systems.
2 Auto Mechanics	1 on duty in power plant; 1 on repair work.
3 Laborers	Teaming, freighting, assisting mechanics and miscellaneous work at headquarters.
1 Steward & Master of Transportation	In charge of all transportation and of storehouses.
1 Chief Buffalo Keeper	In charge of Lamar Buffalo herd.
1 Asst. Buffalo Keeper	In charge of hay ranch operations at Slough Creek.
1 Buffalo Herder	Assisting buffalo keeper.
1 Park Naturalist	Scientific research work and developing museum.
1 Chief Park Ranger	In charge of ranger force.
1 1st Asst. Chief Park Ranger	In charge of Northern District.
2 Assts. Ch. Park Ranger	1 on duty at Lake District; 1 in charge of Western Supervisory Territory.
22 Park Rangers (17 WAE)	Patrolling, protecting game and miscellaneous duties.
4 Park Rangers, temporary, (3 WAE)	Patrolling, protecting game and miscellaneous duties.

Leaves of Absence

Robert R. Robinson, Auto Mechanic, February 2-7, 6 days.
 Julius L. Greer, Park Ranger, February 2-21, 17 days.
 Andrew R. Edwin, Clerk, Feb. 2 (noon), 14 (noon), 27-28, 3 days.

Harry McFarland, Foreman, February 2-26 (noon), 19-1/2 days.
 Anna E. Madsen, Clerk, February 4-25, 17 days.
 Joseph Joffe, Clerk, February 3 (noon), 11 (noon), 1 days
 Deate T. White, Foreman, February 12, 24-28, 6 days.
 Leroy Hill, Asst. Supt., February 6 (1/2), 10 (1/2), 1 day.
 William Wiggins, Master Plumber, February 9-11, 3 days.
 Julia S. Stockett, Clerk, February 6 (1/2), 19 (noon), 1/2 day.
 Earl S. Bowman, Park Ranger, February 12-21, 9 days.
 William J. O'Loughlin, Laborer, February 14, 1 day.
 Peter E. Bilkert, Asst. Supt., February 16, 1 day.
 Michael Z. Ferguson, Park Ranger, February 20-21, 2 days.
 Arthur W. Burney, Asst. Engineer, February 13-14, 28, 3 days.
 Birt Vink, Blacksmith, February 13-21, 8 days.
 Charles D. Dale, Electrician, February 24 (noon)-28, 4-1/2 days.
 William Wiggins, Master Plumber, February 10-14, 5 days, SICK.

Leave Without Pay

Nellie Roach, Telephone Operator, February 1-28.
 Daniel W. Tripp, Laborer, February 1-28.

Office Force Activities

During the month of February 1127 pieces of official mail were received and 899 were sent out.

Finances

Costs of Operation, etc.: The cost of operating the park for the month of February, 1925, will be shown on the Monthly Cost Accounting Report which will go forward as soon as prepared.

Revenues:

Sale of Electricity:

Certified check #852, dated February 10, 1925,
 drawn by Vernon Goodwin on the National Bank of
 Montana, Helena, Montana, to the Director,
 National Park Service, amount.....\$ 3.00

Certified check #1098, dated February 11, 1925,
 drawn by H. W. Child on the National Bank of
 Montana, Helena, Montana, to the Director,
 National Park Service, amount..... 40.40

Certified check #852, dated February 11, 1925,
 drawn by H. W. Child on the National Bank of
 Montana, Helena, Montana, to the Director,
 National Park Service, amount.....328.57

Permit for operating boats on Yellowstone Lake:

Certified check #848, dated February 10, 1925, drawn by H. W. Child on the National Bank of Montana, Helena, Mont., to the Director, amount.....\$ 100.00

Plans, Maps and Surveys

The work of the Engineering Department has consisted principally of general office work.

Report on Commissary & Transportation

The Master of Transportation was engaged in building shelves and otherwise fixing up commissary during month. The necessary freighting between Gardiner and Mammoth was accomplished by a truck driver.

III. MAINTENANCE OF IMPROVEMENTS AND FACILITIES.

Grounds

Necessary work, such as hauling coal, wood, ice and garbage and clearing roads early in the month with a snow plow was done in this department. The foreman was absent on leave practically the entire month.

Electrical and Telephone Systems

The Acting Chief Electrician worked in the hospital part of the month putting in wiring for electric heater for Dr. Windsor's living quarters; also put in wiring for electric hot water heaters, and changed other wiring in hospital. Worked 15 days on fixing up and rearranging electrical shop.

The Power Plant was operated in the usual manner. It was run constantly with the results shown in comparison with those of February, 1924, as follows:

	<u>1924</u>	<u>1925</u>
Total current generated in KW hours	43,310	48,880
Of this, sold to public utilities at 5¢ per KWH	3,422	3,290.3
Consumed for street lighting	1,650	1,873.0
Balance, consumed in government buildings, for power and lighting, and lost on lines in transit	38,238	43,716.7
Peak load during month in KWH	96	102

The Telephone and Switchboard office was open daily from 7:30 A.M. to 8:30 P.M. The total business handled was as follows:

	<u>1924</u>	<u>1925</u>
On Government local lines.....	1815	3117
On Hotel Company lines.....	227	359
On Long Distance connections....	<u>93</u>	<u>67</u>
		3543

Water and Sewer Systems

General maintenance and repair work was done to water and sewer systems at Mammoth. Plumber installed steam radiation in new rooms at hospital; also installed new wash basin and one slop sink.

Machinery and Equipment

Three F.W.D. trucks were overhauled; also 1 Graham truck, 2 Reo speed wagons and one Dodge truck. One hundred thirty camp tables were made. The blacksmith repaired tools for commissary. Three freight bodies were made for F.W.D.'s.

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The Master Painter^{painted} and varnished a Graham truck, a Service car, Dale's truck and seven F.W.D. trucks; also painted two dump wagons. Three rooms, to be known as Field Office, were given two coats of paint on walls and woodwork. Miscellaneous work was done about Mammoth, in electric light plant, in Mr. Bilkert's quarters, painting signs, glazing, etc.

V. PROTECTION DEPARTMENT.

Patrols

Chief Ranger Woodring is directly in charge of the activities of the Department. He has alternated throughout the month from office to field, and contemplates an extensive ski trip to interior points beginning March 3rd.

First Assistant Chief Ranger Trischman was on special elk, deer and antelope patrols in the Mammoth Gardiner District during the first two weeks of the month and was on a tour of inspection of the Northern Supervisory Territory from the 15th to 26th inclusive. He reports conditions generally good, excepting, however, the elk situation which will be reported in full under the proper heading.

Assistant Chief Ranger Douglas was on patrol from Mammoth to Lake - his headquarters station - on the 4th to 6th inclusive. He proceeded from Lake to Snake River on the 14th and from Snake River to Bechler River on the 19th, from which point he returned to Snake River on the 28th. He reports conditions as good in the South District.

Assistant Chief Ranger Carter patrolled to points between Riverside and Gallatin stations on the 1st to 9th inclusive, arriving at Gallatin on the latter date. He was on special patrol from the 10th to 17th inclusive to points in the Gallatin Game Preserve which adjoins the park on the North; this patrol was for the purpose of observing and reporting elk conditions in this district. The gist of his report will be noted herein.

The more important of the regular ranger patrols were made on the following dates: Lake to Upper Yellowstone and return 1st to 10th inclusive, Lake to Cold Creek and return 12th to 16th inclusive, Lake to Mammoth, 25th to 27th inclusive, Soda Butte to Cold Creek and return 6th to 14th inclusive, Riverside to Upper Basin and return 8th to 14th inclusive. All other patrols were regularly and promptly made with generally satisfactory reports from all points.

Other activities have consisted of the grooming and care of horses, wild animal feeding (elk, deer, buffalo), predatory animal hunting, care and maintenance of tools and equipment and other routine duties consisting in part of the capture, crating and shipping of 12 elk to points in Utah and Illinois.

Wild Animals

Forage Conditions: The moderate temperatures of the past month together with occasional warm winds have uncovered considerable areas on the principal winter ranges; the south exposures of all ridges between Bear Creek and Hellroaring and from thence to Soda Butte are barren of snow. This fact, however, gives no promise of improved conditions in this district as the elk have been following the snow line cleaning up on all forage as they go. The snow covered slopes are crusted and there is no promise of any relief from this condition for some time. There is considerable available forage on the higher elevations - despite increased snow depths, and increasing numbers of elk have been recently observed at these points.

Elk: Regarding elk conditions increased concern is felt from week to week. There has been no considerable losses to date but forage conditions are not satisfactory and while most of the bands are in fair condition at this time there are hundreds of individuals with low vitality - too thin and weak it is feared to withstand the rigors of the late winter season and the ravages of the tick. The losses

will be considerably more than normal and will be heaviest among the cows and calves. There has been no considerable drift during the month. The numbers down the Yellowstone to points outside the park have been somewhat increased. Crevise Mountain is covered with elk and the forest ranger on Hellroaring reports scattered bands ranging all the way to Horse Creek- 5 miles beyond the park boundary. Seventy-five have been recently reported on top of Mt. Norris and 150 on the top of Specimen, which indicates a moderate drift to the higher levels. The bands on the higher elevations are in good condition. The following counts have been recently submitted by rangers on patrol: Bear Creek to Hellroaring 512, Hellroaring to Tower Falls 300, Tower Falls to Slough Creek 350, Lower Slough Creek to park boundary 975, Yancey Hay Ranch 125, Lower Slough Creek to Buffalo Farm 500, Buffalo Farm to Pebble Creek 1200, Gallatin District 1800, Yellowstone watershed below Gardiner 2500, central area 361, Mammoth-Gardiner district 780, Blacktail 500. There are practically no elk in the Southern area at this time but it might be interesting to note that the southern herd (Jackson Hole Herd) comprises about 10,000 head - some estimates place the herd totals from 12,000 to 15,000. There are 5,500 on the feed grounds at Jackson which are reported in excellent condition. There is a large herd on the Grovant and scattered bands throughout the valley, some as far down as Hoback Canyon. Heavy losses are anticipated on the Grovant and at other points where feeding is not in progress but there are no losses to date. The Chief Ranger will procure a full count on the Yellowstone elk herds late in March or early in April.

The reported losses during the month are as follows:

Winter kills - Cottonwood to Blacktail.	7
" " Slough Creek	9
" " Buffalo Farm	2
" " Soda Butte	6
" " Gardiner-Mammoth District	2
" " Gallatin District	1
Total	27
Slain by tooth hunters at points	
outside the park	8
Shipments	12
Total	67

which together with the deductions previously reported make a season total of 1412.

Elk feeding is in progress at the Upper and Lower Slough Creek Ranches and at the Yancey Ranch; 450 are on the feed grounds at Lower Slough Creek and 207 at the Upper Ranch; 125 are being fed at Yancey's. A small band ranging from 30 to 40 are feeding with the deer at Mammoth. There is a limited supply of hay at the Gardiner Ranch for the requirements of the elk in this district but only a moderate amount has been fed to date.

104 tons of hay have been fed to elk at the Slough Creek ranches during the month. The elk feeding at Mammoth and Yancey's has been in connection with deer and horse feeding with no separate accounting had for the hay fed to them at these points.

Deer: Recent counts on deer are as follows: Knowles' Cabin to Cottonwood 81, Gardiner to Hoppe's Ranch 138, Mammoth-Gardiner District 87, Tower Falls 26, Cottonwood to Lamar 101, Madison Junction 6, Excelsior Geyser Basin 16, Upper Geyser Basin 30, Total 485. This is the largest total submitted this season to date.

There was a loss of only one reported during the month. It was killed by coyotes in the Cottonwood country, which, together with the losses previously reported, makes a season total of 84. The deer are in good condition.

Antelope: The antelope range is patrolled daily with good reports as to their condition at all times. The largest count submitted during the month was made on the 19th and totaled 395. Two hundred and eight of this number were outside the park. They were ranging principally in the neighborhood of the Sherman and Stoll ranches; the balance consisting of 187 were observed within the park limits on the slopes of Mounts Sepulchre and Evarts.

There was a loss of one during the month. It was familiarly known as "old Bill" - one of the two pet antelopes that frequented the hay flats at Gardiner. He has been a familiar figure at the north gate for years, and has probably been photographed more than any animal in Yellowstone Park. His death is attributed to old age. The season's losses to date total 3; two of this number were killed by coyotes. The herd is in splendid condition.

Sheep: The following counts were submitted during the month: Bear Creek to Hellroaring 32, Hellroaring to Tower Falls 6, Junction Butte 81, Specimen Ridge 16, Mt. Norris 22, Bison Peak 6, Mammoth District 22, total 185. The sheep are so widely scattered between Hellroaring and Tower Falls that no satisfactory count could be had this month, and we have no recent counts from other well known sheep districts for the same reason. No losses have been reported during the month; in fact no losses are known to have occurred within the park this season. All that have been observed are in good condition.

Moose: No efforts calculated to procure a full count on moose have been made during the month but rangers on their regular patrols have observed and reported as follows: Cabin Creek to Thorofare 30, Indian Creek (7 miles south of Mammoth) 4, Bear Creek (Cold Creek district) 2, Maple Creek 1, Tepee Creek (west boundary - outside the park) 6, Sylvan Pass 3, Upper Lamar River 5, Amphitheatre Creek 4. A cow moose is reported to have been slain by hunters during the month at a point beyond the west boundary - Grayling District. This report, however, has not been definitely confirmed. Considerable

numbers of moose are known to be wintering at points outside the park - particularly in the Sylvan Pass District, Upper Slough Creek, Gallatin District, Grayling District, and the Upper Yellowstone. No moose losses are known to have occurred this season.

Buffalo - Lamar River Herd: The tame herd, so called, was removed from the Slough Creek Hay Ranches on the 9th and have since been fed at the Buffalo Ranch. 60 tons of hay were fed them at Slough Creek and 93 tons at the home ranch, making a total of 153 tons for the month. No losses have occurred during the month and the herd is in good condition.

Buffalo - Pelican Flats Herd:- This herd is not well designated as it covers a wide range of remote country. The members of the herd are exceedingly wild. They subsist entirely on the native forage. They are rarely seen except in the dead of winter. By reason of their habits, their wild and ferocious disposition, and the character and extent of their range they have been commonly designated as the wild herd. Members of this roaming band are commonly seen on the Pelican flats. Other members of this same band are also commonly seen in the Cache Creek, Colfee Creek and Miller Creek country, the last named points being in many respects quite remote from the former. Recent counts in the Pelican Creek District give a total of 27. Patrols from the north side have also recently covered the Cache, Colfee and Miller Creeks District and submit a total count of 44. However, it is considered that one group of eleven are members of the Lamar River herd, leaving a count of 33 for this district, and making a herd total of 60 counted this season to date. They appear to be in good condition.

Bear: Two bears - mother and cub - have been out most of the winter at Lake Station. They were in their den during the cold wave in December and again for a few days in January, but apart from these brief intervals they have appeared for their daily rations throughout the entire winter season.

Small Animals: Badgers have been reported at intervals throughout the winter at Lake and Mammoth. Beaver are at work on the Gardiner, Lava Creek, Blacktail Deer Creek and at numerous other points in the park. Mink were recently reported on Grayling Creek, and otter have been observed on Gardiner River, Lava Creek, Blacktail Deer Creek and Gibbon River near Norris Station during the month. Marten signs are reported on the Madison River and at Yellowstone Lake.

Water Fowl: Ducks, geese and swan have reappeared on the Madison and Yellowstone Rivers during the month.

Predatory Animals

Lion signs were observed near 7 Mile Bridge on the Madison River on the 14th and on the divide between Grayling and Gallatin on the 20th.

A lynx track was recently observed near Grayling Cabin and two lynx signs were reported from Turbid Lake on the 10th. No wolf signs were observed during the month.

Coyotes were not frequently seen during the month and the number of kills were proportionately small. They have not appeared to be numerous anywhere in the park since the first of the year except for a limited area near the mouth of Cottonwood Creek - on the Yellowstone - where frequent losses of deer were reported. Park Ranger E. E. Ogston was recently provided with temporary camping facilities near this point and he has since accounted for six coyotes, - the deer losses in this district being reduced to 1 for the entire month.

The coyote returns for February are as follows:

Lake Station	1
Riverside	1
Hellroaring	3
Tower Falls	1
Cottonwood	6
Gardiner	3
Mammoth	2

Total 17 which together with a total of 164 previously reported makes a total at this time of 163, as compared with 176 for the same date of last year.

Ranch Operations

Upper Slough Creek Hay Ranch: The main body of the Lamar River buffalo herd were fed at this point from the 1st to 8th inclusive, 60 tons of hay being fed. Since that time elk feeding has been in progress at this point and for this purpose 23 tons of hay have been used. The number of elk on the feed ground at the end of the month is 207. The total hay fed at the Upper Slough Creek ranch this season to date is 83 tons, leaving a balance of 40 tons on hand.

Lower Slough Creek Hay Ranch: Elk feeding has been in progress at this point throughout the month with a total of 450 on the feed ground on the 28th. 81 tons of hay have been fed since the 1st of the month leaving a balance at this time of 40 tons.

Buffalo Ranch: The buffalo were brought in from Slough Creek on the 9th and feeding has since been in progress at this point. 79 tons of hay have been fed to the main herd since the 9th; 14 tons have been fed since the 1st to the buffalo calves, and 5 tons of hay have been fed to the horses, making a total of 98-1/2 tons for the month, leaving a balance of 174-1/2 tons on hand.

Yancey Hay Ranch: 40 horses have been fed at this point throughout the month and from 73 to 125 head of elk, 27 tons of hay being used. There is a balance of 12-1/2 tons on hand at this time.

Gardiner Hay Ranch: There has been a limited amount of elk feeding at this point and several truck loads of hay have been removed to Mammoth and fed to the elk and deer at headquarters. A total of 25 tons were fed from this point during the month, leaving a record balance of 228 tons. This, however, is very much in excess of the actual tonnage as much of it is so old and weathered that it has little or no value as feed and the shrinkage in the measurements of some of the stacks of old hay is considerable.

Other Items of Interest

Wild animal shipments during the month consisted of the following: 2 young male elk to Mr. William Mace, Cedar City, Utah, 1 young male and 9 young female elk to Mr. Ransom Kennicott, Chief Forester, the Forest Preserve District of Cook County, Willow Springs, Ill. They were all individually crated and were delivered to the carrier in good shape.

Tooth hunters are active in the Gardiner-Jardine district and seven bull elk are reported to have been slain, also a fine bull elk appears to have been slain on the Sherman Ranch below Gardiner. Following this report the Chief Ranger rode the country for two days and saw and photographed four of the dead elk. They were all fine big bulls, and in splendid condition. The teeth had been removed in each case. None of them appeared to have been dead for more than ten days. It appears that the killing has been done by certain youthful residents of Gardiner and Jardine. Members of the State Game Department of Montana have since arrived on the scene and have taken charge of the situation.

VI. MUSEUM, NATURE GUIDE WORK, EDUCATIONAL WORK.

The Park Naturalist is still in Yosemite, and therefore there is nothing to report from his department.

VII. MISCELLANEOUS.

Religious Matters

Church services were held in the Canteen on February 5 and 26 by the Rev. Geo. C. Koehler of the English Lutheran Church of Livingston, Mont.

The Rev. W. Friend Day of Emigrant, Mont., of the Episcopal Church, held services on the morning of February 15.

The Director,
National Park Service,
Washington, D.C.

Cordially yours,

LEROY HILL
Acting Superintendent.